

# Guide to the Lunar Prospector Project Records, 1995-1998 AFS8000.5-LP

NASA Ames History Archives NASA Ames Research Center

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# **Descriptive Summary**

## Title:

Lunar Prospector Project Records, 1995-1998

## **Collection Number:**

AFS8000.5-LP

### **Creator:**

Office of the Director of Space Research (Code S)

### **Dates:**

Inclusive: 1989-1999 Bulk: 1995-1998

## **Extent:**

Volume: 6.5 cubic feet

## Repository:

NASA Ames History Archives Moffett Field, California 94035

### **Abstract:**

The Lunar Prospector mission management records accumulated by Deputy Mission Manager Sylvia A. Cox document the management of all aspects of the project, from the initial proposal through the extended mission. The collection contains proposals, contracts, correspondence, status reports, planning documents, design reviews, scientific findings, presentations, and news footage.

#### **Administrative Information**

#### Access:

Access to portions of the collection is subject to national export restrictions.

## **Publication Rights:**

Copyright does not apply to United States government records. For non-governmental material, researcher must contact the original creator.

### **Preferred Citation:**

Expanded:

NASA Ames History Archives, NASA Ames Research Center. Moffett Field, California. AFS8000.5-LP, Lunar Prospector Project Records, 1995-1998 [Container number]: [Folder number]. [Identification of item]. [Date, if available].

Abbreviated:

NASA ARC. AFS8000.5-LP, [Container number]: [Folder number]. [Identification of item]. [Date, if available].

## **Acquisition Information:**

Transferred by Peter D. Klupar on February 9, 2011.

## **Administrative History**

The Lunar Prospector Discovery Mission to study our moon launched from Kennedy Space Center atop an Athena II rocket on January 7, 1998 UT (January 6 EST). Five days later, it reached the moon and circled it in a polar orbit for the next 19 months. The spacecraft mapped the moon, collecting data about gravity fields, magnetic fields, geochemical composition, and gas-release events. On July 31, 1999 UT the mission team purposely slammed the craft into a permanently shadowed area of a crater near the south pole, in an attempt to find evidence of water ice. Though this dramatic attempt proved unsuccessful, data from the neutron spectrometer experiment showed an abundance of hydrogen. Analysis of these data along with data obtained from the Naval Research Laboratory's Clementine mission strongly suggested that deposits of water ice might be present at both poles of the moon (Feldman, et al. 1998).

Lunar Prospector was a small, spin-stabilized spacecraft, just over four feet in diameter and about four and one half feet tall. It had three booms that extended about eight feet out and carried five instruments and six science experiments: a Gamma Ray Spectrometer, Neutron Spectrometer, Magnetometer, Electron Reflectometer, Alpha Particle Spectrometer, and Doppler Gravity Experiment. Also aboard Lunar Prospector was a small polycarbonate vial containing one ounce of the cremains of the late astronomer Eugene Shoemaker. As an honorary gesture, Shoemaker's ashes were embedded in the lunar surface with the spacecraft, for the first ever space burial of a human being on a celestial body.

In February 1995, Lunar Prospector was selected to be one of NASA's low cost Discovery Program missions designed to help us explore and better understand the solar system. Characterized by its adherence to a "faster, better, cheaper" model envisioned by then NASA Administrator Dan Goldin, the goal of NASA's Discovery Program was "to achieve outstanding results by launching many smaller missions using fewer resources and shorter development times" (National Aeronautics and Space Administration, 2011). To this aim, the Lunar Prospector team adopted the management approach of Lockheed Martin's "Skunk Works," which used streamlined methods and principles to efficiently develop the U-2, SR-71, and F117A. With a rapid completion in 22 months and total cost of \$62.8 million, including development, launch vehicle, and operations (National Aeronautics and Space Administration, 2010), the Lunar Prospector mission successfully fulfilled Discovery Program objectives.

The mission was managed from NASA Ames Research Center in Moffett Field, California, by the Space Projects Division (Code SF) within the Office of the Director of Space Research (Code S), with G. Scott Hubbard designated as Mission Manager. During the life of the project, from proposal phase onward, Hubbard managed the mission while serving as Acting Chief of Code SF (1995-1996), Associate Director of Code S (1997), Deputy Director of Code S (1998), and finally Associate Director for Astrobiology and Space Programs for the Office of the Director (Code D, 1999). Sylvia A. Cox served as Lunar Prospector's Assistant then Deputy Mission Manager, working in the Advanced Projects Branch (Code SFS, 1995-1997) and Project Operations Branch (Code SFE, 1998-1999) of the Space Projects Division. The prime contractor for the mission (under contract NAS2-14256) was Lockheed Martin Missiles and Space Company (LMMSC) in neighboring Sunnyvale, California, with Alan B. Binder of the Lunar Research Institute in Tucson, Arizona as Principal Investigator (from 1998-1999, Binder was a LMMSC subcontractor working in Code SF) and Thomas A. Dougherty served as LMMSC Project Manager. LMMSC in Littleton, Colorado provided the Athena II launch vehicle.

#### **Sources Consulted**

- Feldman, Maurice, Binder, Barraclough, Elphic, and Lawrence, "Fluxes of Fast and Epithermal Neutrons from Lunar Prospector: Evidence for Water Ice at the Lunar Poles." *Science* 4 (September 1998): 1496-1500.
- Fletcher, "'Burying' a man on the moon." *Associated Press*, July 31, 1999, retrieved February 17, 2011 from http://www.msnbc.msn.com/id/3077929/ns/technology and science-space/
- National Aeronautics and Space Administration (2010). *Lunar Prospector*. Retrieved February 16, 2011 from http://nssdc.gsfc.nasa.gov/nmc/spacecraftDisplay.do?id=1998-001A
- National Aeronautics and Space Administration (2011). *Discovery Program Overview*. Retrieved February 16, 2011 from http://discovery.nasa.gov/program.cfml
- NASA Ames History Archives, NASA Ames Research Center. Moffett Field, California. AFS1070.8A, Archives Reference Collection. Telephone Directories. 1995-1999.

## **Scope and Content**

The Lunar Prospector Project Records (6.5 cubic feet), accumulated by Deputy Mission Manager Sylvia A. Cox, document the management of all aspects of the mission: business activities; science objectives and experiments; public outreach and education; flight and launch system design, integration, and testing; and ground system and operations efforts. Also included are published scientific findings and news clips about the mission. Series I is comprised of regular reports that detail the progress of the program and its extension. Plans, costs, scheduling, systems design, operations, and outreach efforts are discussed in these reports. Series II contains major engineering systems and operations design reviews, which reflect the systematic development and examination of the spacecraft and its operational support structures throughout the project. Series III details the development of the launch architecture, with launch vehicle selection, system design, and operations documentation. Series IV contains an assemblage of files related to the initiation, and technical and business oversight of the program. Present are proposals, requirements, contracts, correspondence, mission descriptions, and technical documents. Series V consists of a collection of published research findings in scientific journals such as Science magazine. Series VI contains video footage, most of which is reportage about the mission.

The bulk of the material in this collection is textual, with a few VHS tapes in Series VI and a handful of decals and CD-ROM discs in the "Outreach Materials" file in Series IV.

# **System of Arrangement**

This collection is arranged in six series, with Series I-III arranged chronologically and Series IV-VI arranged alphabetically and by format. In the absence of a usable original order, this arrangement was imposed during processing. Two versions of filenames were present for about fifty percent of the records, one set appearing on the file tabs and another on adhesive notes affixed to the file folders. The latter were used, as they appeared to be the most descriptive and most current. Redundancies in file titles were omitted on a great majority of the files, such as repetition of the words "Lunar Prospector" or "Lunar Prospector Discovery Mission."

## **Series Descriptions**

## Series I: Recurring Mission Reports, 1995-1998 (42 folders)

This series is arranged into two subseries consisting of regular mission reports prepared for the Lunar Prospector teams and NASA headquarters on weekly, monthly, and quarterly bases. The records provide an overview of the mission's management, from tracking costs, schedules, and performance metrics to overseeing the development and testing of the spacecraft.

# 1. Monthly Project Management Reports

The first subseries of thirty-one files contains monthly reports. Dated from May 1995 through January 1998, these are prepared by the Lockheed Martin Missiles and Space Company's Space Systems Division according to requirements in contract NAS2-14256. Compiled by Lunar Prospector Project Manager Thomas A. Dougherty and Principal Investigator Alan B. Binder, the reports summarize project activities and program status. Included are cost, schedule, and technical information: budget tracking tables, performance management metrics, master and subsystem schedules, and status reports.

# 2. Quarterly Reviews and Monthly Status, Financial, and Weekly Activity Reports

The second subseries of eleven files consists of monthly status reports prepared for NASA headquarters that are dated from 1995 to 1997, quarterly reviews dated from January 1997 through December 1998, and weekly activity reports dated from October 27, 1995 through October 24, 1997. The headquarters monthly status reports and quarterly reviews were prepared by Ames Mission Manager G. Scott Hubbard, Deputy Mission Manager Sylvia Cox, and Operations Manager Marcie Smith, with regular contributions from Principal Investigator Alan Binder and Dynamics Officer Daniel Swanson. These short documents are formatted as presentations with headings and bulleted remarks. Contents include programmatic assessments and reporting on operations, public relations, education, issues and concerns, schedules, financial status, anomalies, science instruments, and the extended mission. Weekly activity reports, compiled by Program Manager Thomas A. Dougherty, detail ongoing project activities and run from one to six pages long. Regular submissions from various team leads such as Irving Bernard, Kimberly Foster, Robert Garner, William Jacobsen, and Woody Woodcock provide insight into spacecraft design, testing, troubleshooting, launch vehicle integration, system engineering, electrical power, avionics, ground system, software, scheduling, and program office activities.

## Series II: Design Reviews, 1995-1998 (30 folders)

This series contains engineering systems design and operations review documentation generated throughout the mission, dated from July 1995 through November 1998. Included are 1995 internal and technical design reviews; 1996 status, formal design, and test readiness reviews; and 1997-1998 critical design, pre-ship, flight, spacecraft, launch readiness, and extended mission reviews.

## Series III: Launch System, 1989-1998 (35 folders)

This series consists of records specific to launching the Lunar Prospector spacecraft, the bulk of which are dated from 1995 to 1998. Included are launch vehicle status and update records; critical design reviews; launch risk assessment and management documents; launch vehicle and propulsion subsystem descriptions; and launch sequence and countdown instructions.

# Series IV: Other Project Files, 1995-1999 (82 folders)

This series consists of two record books and files related to all mission management activities, from the program's inception through spacecraft and mission operations, to end of mission wrap up and review. Contents include proposals for the original and extended missions, subcontractor and partner agreements and contract modifications, requirements documents, management plans, program plans, guidelines, correspondence, meeting agendas, presentations, status reports, communication system test procedures and results, timelines, organization charts, rosters, team lists, awards lists, and outreach materials. Also present are records related to spacecraft tracking, environmental assessment, operations planning, data management and data archiving.

Of interest is a record book by Robert W. Jackson, the Spacecraft Operations Branch Chief for NASA Ames during the mission. Dated from 1995-1999, with most entries in 1995, the book contains handwritten notes with related documents pasted on or tucked between pages, primarily concerning technical oversight of ground operations, such as communications, tracking, and data archiving. Included are correspondence, organization charts, meeting agendas, memoranda, and scattered portions of project, planning, proposal, and budget documents.

### **Series V: Science Results (14 folders)**

This series consists of scientific findings, in the form of article copies and reprints, from data collected during the Lunar Prospector mission. Subjects discussed include the overall mission, neutron measurements supplying evidence for water ice at the poles, lunar surface magnetic fields, lunar gravity fields, and lunar elemental maps.

# Series VI: Audio Visual Material, 1995-1999 (10 VHS tapes)

This series consists of video recordings. Most tapes contain news footage about the mission award selection, flight, and results, in the form of NASA press conferences and news clips from cable and television channels. One tape has 42 minutes of unedited footage of a boom arm deployment test.

# **Indexing Terms**

The following terms may be used to index this collection.

# Corporate Name

Ames Research Center

# **Subjects**

Lunar Prospector
Lunar exploration
Moon--exploration--20th century

# **Separated Material**

None.

## **Related Collections**

AFS8000.5-LCROSS: LCROSS Project Collection, 2007-2010

AFS1070.8A: Archives Reference Collection

PP10.16: David W. Lozier Papers

PP03.02: Robert W. Jackson Collection, 1964-1999

#### **Container List**

Series I: Recurring Mission Reports, 1995-1998 A. Monthly Project Management Reports

## Box Folder 1. May 1995 2. June 1995 3. August 1995 4. September 1995 5. October 1995 6. December 1995 7. January 1996 8. February 1996 9. March 1996 10. April 1996 11. May 1996 12. June 1996 13. July 1996 14. August 1996 2 1. September 1996 2. October 1996 3. November 1996 4. December 1996 5. January 1997 6. February 1997 7. March 1997 8. April 1997 9. May 1997 10. June 1997 3 1. July 1997 2. August 1997 3. September 1997 4. October 1997 5. November 1997 6. December 1997 7. January 1998 B. Quarterly Reviews and Monthly Status, Financial, and Weekly Activity Reports 8. Headquarters Monthly Status Reports, 1995-1997 9. Headquarters Quarterly Review, January 13, 1997 10. Monthly Financial Management Reports, 1995-1999 11. Quarterly Review, May 12, 1997 4 1. Quarterly Review, August 11, 1997 2. Quarterly Review, February 9, 1998 3. Quarterly Review, May 11, 1998

6. Weekly Activity Report: October 27, 1995 through September 25, 19967. Weekly Activity Report: October 2, 1996 through October 24, 1997

Quarterly Review, September 8, 1998
 Quarterly Review, December 8, 1998

#### Series II: Design Reviews, 1995-1998

#### Box Folder

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- 8. Internal Design Review (IDR), July 11-12, 1995
- 9. Technical Design Review, September 6-7, 1995 (1 of 2)

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- 1. Technical Design Review, September 6-7, 1995 (2 of 2)
- 2. Technical Design Review, Authority to Proceed, October 1995
- 3. Avionics Communication Subsystem Review, LMMSC, February 20, 1996
- 4. Avionics Subsystem Critical Design Review. Communications Command and Data Handling, Attitude Determination and Control, February 20, 1996
- 5. NASA Headquarters Code SD Status and Program Operating Plan (POP) Review, June 21, 1996
- 6. Critical Design Review Update, Action Item Status, LMMSC, June 25-27, 1996
- 7. Test Readiness Review, November 18-19, 1996 (1 of 2)
- 8. Test Readiness Review, November 18-19, 1996 (2 of 2)
- 9. Test Readiness Review, November 1996

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- 1. Test Readiness Review Action Items, 1977
- 2. Operations: Critical Design Review May 13, 1997
- 3. Operations: Critical Design Review, 1997
- 4. Pre-ship Review, July 23, 1997 (1 of 2)
- 5. Pre-ship Review, July 23, 1997 (2 of 2)
- 6. Pre-ship Review Report, July 1997
- 7. Pre-ship Review, 1997
- 8. Executive Review, October 20, 1997 (1 of 2)
- 9. Executive Review, October 20, 1997 (2 of 2)
- 10. Project Review (Hubbard, Cox). October 20, 1997

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- 1. Pre-ship Readiness Review, October 22, 1997
- 2. Summary of Lunar Prospector, Special Executive Review, November 14, 1997
- 3. Delta Pre-ship Review, November 20, 1997
- 4. Spacecraft Review Briefing (G. Scott Hubbard), December 2, 1997
- 5. Telecommunications and Mission Operations Directorate Readiness Review for the Lunar Prospector Mission (JPL), December 1997
- 6. Mission Review (Venneri), Assorted Documents, 1997
- 7. Level 1 Mission Success: Independent Review, 1997
- 8. Extended Mission Review, November 10, 1998 (1 of 2)
- 9. Extended Mission Review, November 10, 1998 (2 of 2)

#### Series III: Launch System, 1989-1998\*

- 10. Lockheed Martin Launch Vehicle (LMLV) Status, LMMSC (Bill Walsh), November 7, 1989
- 11. Launch Vehicle Status Update (G. Scott Hubbard), December 15, 1995
- 12. Addendum to Launch Vehicle Status Update (G. Scott Hubbard), January 9, 1996
- 13. Previous Launch Options (T. A. Dougherty), February 26, 1996
- 14. Technical Evaluation of Price Proposal for Lockheed Martin Launch Vehicle 2 (LMLV-2), February 28, 1996
- 15. Propulsion Subsystem, March 1996
- 16. LMLV Lunar Prospector Status Review, LMMSC (Larry Price), June 21, 1996
- 17. LMLV-1, Critical Design Review Update, LMMSC No. 17, June 25-27, 1996 (1 of 2)

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- LMLV-1, Critical Design Review Update, Lockheed Martin Number 17, June 25-27, 1996 (2 of 2)
- 2. LMLV-1 Lunar Prospector Status Review for NASA Code S, LMMSC (Buzz Angeli), August 1, 1996

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- 3. LMLV-1 Return to Flight Status Review, LMMSC (Buzz Angeli), August 1, 1996
- 4. LMLV-2, Critical Design Review, August 27-28, 1996 (1 of 2)
- 5. LMLV-2, Critical Design Review, August 27-28, 1996 (2 of 2)
- Lunar Prospector Payload on an LMLV-2 Launch Vehicle. 1 A A50104, LMMSC, November 4, 1996
- 7. LMLV-2 Lunar Prospector Formal Design Review, LMMSC, November 13, 1996
- 8. LMLV Test Readiness Review, LMMSC (Larry Price), November 19, 1996
- 9. LMLV Formal Design Review (FDR) for the Lunar Prospector Mission, Minutes, LMMSC (Lester Turner), November 29, 1996
- 10. LMLV-2, FAA Probable Loss, May 1997
- 11. LMLV-2, PMR, June 4, 1997
- 12. LMLV-2, PMR, July 9, 1997

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- 1. Flight Readiness Review (FRR-1) Kickoff Athena Program, South Lincoln Facility, LMMSC, October 14, 1997
- 2. Athena Flight Readiness Review (FRR No. 1), Mission Success and Product Assurance, LMMSC (Ed Amoroso)
- 3. Athena Flight Readiness Review (FRR No. 1), Volume 1, October 15-16, 1997
- 4. Athena Flight Readiness Review (FRR No. 1), Volume 2, October 15-16, 1997
- 5. Launch Commit Criteria, October 1997
- 6. Independent Launch Risk Assessment, LMMSC, December 12, 1997
- Athena II, Lunar Prospector Mission, Phase 1 Launch Countdown Manual, 1A50030 Revision D, December 17, 1997
- 8. Athena Flight Readiness Review (FRR No. 2), December 22, 1997
- 9. Athena II Launch Day Management Plan, LMMSC, December 22, 1997
- 10. Launch Sequence Document, December 1997

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- 1. Lunar Prospector Athena "First Launch" Review, 1997 (1 of 2)
- 2. Lunar Prospector Athena "First Launch" Review, 1997 (2 of 2)
- 3. Athena II / Lunar Prospector Pre-Launch Management Briefing, LMMSC (Charlie Rogers), January 3, 1998
- 4. Launch Readiness Review, January 3, 1998
- 5. Payload. NASA Launch Readiness Review, January 3, 1998
- 6. Launch System. LMMSC. M2141F5 Title 1
- 7. LLV2 Launch Vehicle LP Preliminary Data on ER & WR Launch Ascent & Trajectory Data, LMMSC, IDR-2:28
- 8. Launch Date Selection Criteria
- 9. Launch Vehicle, General Taurus, etc.
- 10. SSTI-Lewis NASA Briefing (SSTI / TRW)

### Series IV: Other Project Files, 1995-1999

- 11. Air Force, Lunar Prospector Data Sharing
- 12. Ames Integrated Product Team (Jackson)
- 13. Announcement of Opportunity, Discovery Mission, 1995
- 14. Anomalies
- 15. Assembly, Integration, and Test (AI&T)
- Avionics Attitude Sensors, LMMSC (George Schmidt), February 16, 1996
- 17. Avionics C & DH Functions, LMMSC
- 18. Award Fee Determination Packages

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- 1. Capabilities for Emerging Space Systems Missions (Spectrum Astro), April 23, 1996
- 2. C & DH Agenda, Spectrum Astro
- 3. Congressional Inquiry, 1996
- 4. Contingency Plan, 1997
- 5. Contract End Item Specification. Lunar Prospector System LMMSCPOOOS001 (NAS2-14256, Phase B), September 29, 1995
- 6. Contract Modifications, 1995 (1 of 2)
- 7. Contract Modifications, 1995 (2 of 2)
- 8. Data Archiving Plan
- 9. Data List
- 10. Data Management Plan. LMMSC. September 22, 1995
- 11. Deep Space Network. Lunar Prospector Project Compatibility Test Program, JPL / CIT, DSN Number 872-008. September 23, 1997
- 12. Earned Value System (EVS), Lunar Prospector
- 13. End of Mission
- 14. Environmental Assessment Report. LMMSC. June 30, 1997
- 15. Equipment Purchases

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- 1. Extended Mission, 1995
- 2. Extended Mission, 1998-1999
- 3. Extended Mission Proposal and Technical Evaluation, 1999
- 4. Implementing the Provisions of the National Environmental Policy Act. NASA Ames Research Center. NHB 8800.11. Reprinted through Change 1. June 1988
- 5. Independent Science Assessment, Assorted Documents, 1998
- 6. Innovations in American Government, 1999 Awards
- 7. Instrument Papers
- 8. Kick-off Meeting (Binder, Tenerelli, Hubbard), April 6-7, 1995
- 9. Leonid Meteor Storm Response
- 10. Lunar Prospector Impact
- 11. Lunar Prospector Information
- 12. Lunar Research Institute (Alan Binder) Subcontract, 1997
- 13. Management Plan, 1995
- 14. Masts and Boom

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- Memorandum of Agreement Between Ames Research Center and Goddard Space Flight Center for the Navigation and Mission Analysis for Lunar Prospector Project NASA Discovery Program, September 15, 1995
- 2. Miscellaneous Correspondence, Lunar Prospector
- 3. Miscellaneous Documents
- 4. Miscellaneous Viewgraphs
- 5. Mission Management Plan (NAS2-14256, Phase B), LMSC/P086833, September 29, 1995
- 6. Mission Overview (G. Scott Hubbard), October 21, 1997
- 7. Mission Profile
- 8. Mission Readiness
- 9. Mission Requirement Requests (MRR) 1995-1997
- 10. NASA Awards
- 11. Operations Planning
- 12. Outreach

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- 1. Outreach Material (Decals, Information Sheets, Mission Cards, and CD-ROM) (1 of 2)
- 2. Outreach Material (Decals, Information Sheets, Mission Cards, and CD-ROM) (2 of 2)
- 3. PDS Archiving Report Meeting, September 8, 1998
- 4. Preliminary Box Inventories

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- 5. Program Impacts (ROM), (T. A. Dougherty), February 1, 1996
- 6. Program Plan, LMMSC
- 7. Proposal, 1994 (1 of 2)
- 8. Proposal, 1994 (2 of 2)
- 9. Proposal Appendices (LMSC-PO86674) (1 of 3)
- 10. Proposal Appendices (LMSC-PO86674) (2 of 3)

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- 1. Proposal Appendices (LMSC-PO86674) (3 of 3)
- 2. Proposal and Appendices, October 19, 1994 (1 of 3)
- 3. Proposal and Appendices, October 19, 1994 (2 of 3)
- 4. Proposal and Appendices, October 19, 1994 (3 of 3)
- 5. Proposal, Phase C and D, Technical Evaluation
- 6. Proposal, Statement of Work, 1995

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1. Record book by Robert W. Jackson, 1995-1999 (bulk is 1995)\*

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- 1. Record book by Sylvia Cox, circa 1995.
- 2. Rent-free Use of Government Property
- 3. Reserve History, 1996
- 4. Safety, Reliability, and Quality Assurance, Memorandum of Understanding with Kennedy Space Center, 1995-1997
- 5. Schedules, Lunar Prospector
- 6. Science Meeting, September 8, 1998
- 7. Shoemaker, Gene
- 8. Shuttle Option, 1997
- 9. Space Explorers Space Act Agreements
- 10. Spaceport Florida Authority
- 11. Status Meeting, June 21, 1996
- 12. Thank You Letters

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- 1. Tracking Support
- 2. University of Texas Proposal, 1999
- 3. Verification Matrix, November 14, 1996
- 4. Y2K (Year 2000) Readiness

#### Series V: Science Results

- 5. Binder, et. al. Lunar Prospector: The KREEP Distribution
- 6. Binder. Lunar Prospector Mission Overview
- 7. Elphic ,et. al. Lunar Prospector Neutron Measurements and Fe and Ti Abundance from Clementine Spectral Reflectance
- 8. Deardorf and Green. Real-Time Lunar Prospector Data Visualizatin Using Web-Based Java. AIAA reprint AIAA 99-0691. 1999
- 9. Feldman, Binder, Barraclough, et. al. Fluxes of Fast and Epithermal Neutrons from Lunar Prospector: Evidence for Water Ice at the Lunar Poles
- 10. Feldman, et. al. Major Compositional Terranes of the Moon; Lunar Prospector Thermal Neutrons
- 11. Feldman et. al. Models of Polar Water Ice on the Moon: Lunar Prospector Fast Neutrons
- 12. Feldman, et. al. The Search for Polar Water-Ice on the Moon: Lunar Prospector Epithermal Neutrons
- 13. Hubbard, Binder, Dougherty, Cox. The Lunar Prospector Discovery Mission: A New Approach to Planetary Science. Acta Astronautica reprint PII: S0094-5795(98)00070-8. 1997

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- Hubbard, Binder, Feldman. The Lunar Prospector Discovery Mission: Mission and Measurement Description. IEEE Transactions on Nuclear Science reprint from Volume 45 Number 3. June 1998.
- 15. Konopliv, et. al. The Gravity Field of the Moon from the Lunar Prospector Mission
- 16. Lawrence, et. al. First Global Elemental Maps of the Moon: The Lunar Prospector Gamma-Ray Spectrometer
- 17. Lin, Mitchell, Curtis, et. al. Lunar Surface Magnetic Fields and Their Interaction with the Solar Wind: Initial Results from Lunar Prospector
- 18. Lunar Prospector. Science Magazine Reprint from Volume 281 Number 5382. September 4, 1998

#### Series VI: Audio Visual Material, 1995-1999

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- Lunar Prospector Boom Arm Deployment Test (Unedited Camera Footage), March 31, 1997. TRT 42:00
- Lunar Prospector Initial Science Results (Video News File), March 2, 1998. TRT 20:08. AAV-1622
- 3. Lunar Prospector NASA Award Selection Press Conference, February 28, 1995. TRT 22:15
- 4. Lunar Prospector News Reports, March 12, 1997 and CNN Post HST Flight Coverage, March 13, 1997. TRT 15:00
- 5. Lunar Prospector News Reports. Water Ice on the Moon. Channel 7 KGO, CBS Evening News, NBC Today. Undated
- 6. Lunar Prospector Press Conference, Undated
- 7. Lunar Prospector Revisited with Complete Animation (Video File), December 29, 1997. TRT 13:57. AAV-1618
- 8. McDonald Observatory Video Release: Lunar Prospector Mission, July 1999
- 9. Space Explorers Moonlink Program, Undated. (2 copies)

<sup>\*</sup>Access controlled. Contains proprietary information.